

A system and method for interleaving data in a wireless transmitter wherein bits from the input data stream are sent to downstream processing without being stored in memory. According to a first example embodiment of the present invention, a first radio frame of data from an input code block is sent downstream, and the remaining radio frames from the code block are stored in the memory buffer. The first interleaving pattern can be applied, for example, as data is written to or read from the memory buffer. The stored radio frames are then read out as needed by the downstream processing. According to a second example embodiment of the present invention, further savings in memory can be achieved by discarding bits that are not currently needed for processing then recalculating them at a later time. A first radio frame of data from an input code block is sent downstream without being stored in the memory buffer. Additional radio frames from the input code block may be stored in the memory buffer, and the remaining frames are discarded. Those radio frames stored in the memory buffer are then read out as needed by downstream processing. The input code block is then recalculated by the operations upstream from the first interleaver, and the sending downstream, storing, and discarding operations are repeated until the remaining radio frames have been provided to downstream processing.